WO 2004/109854 PCT/IB2004/050786

9

CLAIMS:

20

1. Device (1) comprising an antenne for receiving radio frequency signals, which antenne (2-5) comprises:

- a first conductor (2) for receiving the radio frequency signals and for converting the radio frequency signals into electromagnetic fields; and
- a second conductor (3) for receiving at least a part of the electromagnetic fields and for converting the received electromagnetic fields into input signals, which second conductor (3) is different from the first conductor (2) and is coupled to a radio frequency circuit (10) for processing the input signals.
- Device (1) according to claim 1, wherein the radio frequency circuit (10) comprises an antenna diversity unit (20) comprising a first input (11) coupled to the second conductor (3) and a second input (12) coupled to a third conductor (4,5) of the antenne (2-5), which third conductor (4,5) is different from the first (2) and second (3) conductors.
- Device (1) according to claim 2, wherein the third conductor (4) is mainly arranged for receiving at least a part of the electromagnetic fields.
  - 4. Device (1) according to claim 2, wherein the third conductor (5) is mainly arranged for receiving the radio frequency signals.
  - 5. Device (1) according to claim 2, wherein the antenna diversity circuit comprises:
  - a first attenuator (13) coupled to the first input (11);
  - a second attenuator (14) coupled to the second input (12); and
- a combiner (17) comprising inputs coupled to outputs of the first and second attenuators (13,14).
  - 6. Device (1) according to claim 1, wherein the radio frequency circuit (10) is mounted on the first conductor (2).

WO 2004/109854 PCT/IB2004/050786

10

7. Device (1) according to claim 1, wherein the first conductor (2) is in the form of a plane having a first surface and the second conductor (3) is in the form of a wire having a second surface smaller than the first surface.

5

15

20

- 8. Device (1) according to claim 7, wherein the perimeter of the first conductor (2) has a value between 15% of the wavelength of the radio frequency signals and 200% of the wavelength of the radio frequency signals.
- 10 9. Device (1) according to claim 7, wherein the first conductor (2) is substantially a square.
  - 10. Device (1) according to claim 7, wherein the second conductor (3) is substantially located in parallel to a side of the first conductor (2), which first (2) and second (3) conductor are separated from each other by an air gap having a gap distance smaller than the length of the side of the first conductor (2).
  - 11. Antenne (2-5) for receiving radio frequency signals and comprising:
  - a first conductor (2) for receiving the radio frequency signals and for converting the radio frequency signals into electromagnetic fields; and
  - a second conductor (3) for receiving at least a part of the electromagnetic fields and for converting the received electromagnetic fields into input signals, which second conductor (3) is coupled to a radio frequency circuit (10) for processing the input signals.

25

- 12. Method for receiving radio frequency signals and comprising the steps of:
- at a location, receiving the radio frequency signals and converting the radio frequency signals into electromagnetic fields;
- at a different location, receiving at least a part of the electromagnetic fields 30 and converting the received electromagnetic fields into input signals; and
  - processing the input signals.